THE HORTICULTURIST

AND

JOURNAL

OF

Rural Art and Rural Taste,

DEVOTED TO

HORTICULTURE, LANDSCAPE GARDENING, RURAL ARCHITECTURE, BOTANY, POMOLOGY, ENTOMOLOGY, RURAL ECONOMY, ETC.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS.

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THE

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Hints on Grape Culture.—XXXIII.

We propose now to extend the renewal system, and carry it to what may be called the full-armed renewal. To do this, it will be necessary to erect a trellis, for stakes will no longer answer the purpose, since the arms, when extended, will meet each other. This system, therefore, oversteps the point of economy originally made, and in other respects is not as good as the system first described. Its extension, however, seems to follow naturally, and it is not without its merits. Taking the vine as we left it in our last article, or as seen in *Fig.* 1, p. 362, the two end canes are to be grown during one season, to be laid down the next for the extension of the arms. From the additional arm thus laid down, upright shoots are to be taken in the manner already described. There will be four shoots on each arm. The vine will then present the appearance shown in *Fig.* 1. The illustration does not show the different stages in the process of forming the arms and bearing shoots, but rather the appearance of a vine, the arms of which had been laid down by one operation; but after what has heretofore been said, the reader will doubtless understand the process very well. Let us suppose the illustration to represent the vine at the end of the first season after the arms have been completed: the pruning will consist in cutting the canes *m*, *e*, *g*, and *p*, at the point *i*, and shortening in the other canes to about two and a half feet long. These will be the bearing canes for next year. The length of these bearing canes, however, must be regulated by the condition of the vine; and this is especially important during the first and second bearing years. The young vineyardist must be careful not to let his vines overbear. Many a good vine has been ruined by being allowed to carry too heavy a crop; hence the caution can not be too often repeated.

If the bearing canes are allowed to remain upright when the buds break, the fruit will set mostly at the top. It is necessary, therefore, to bend these canes down, as described in a former article, if it is wished to have the fruit set uniformly along the cane. Some special directions and illustrations are needed on this point, which we shall give hereafter.

As soon as the fruit has set, the ends of the bearing shoots must be pinched out.

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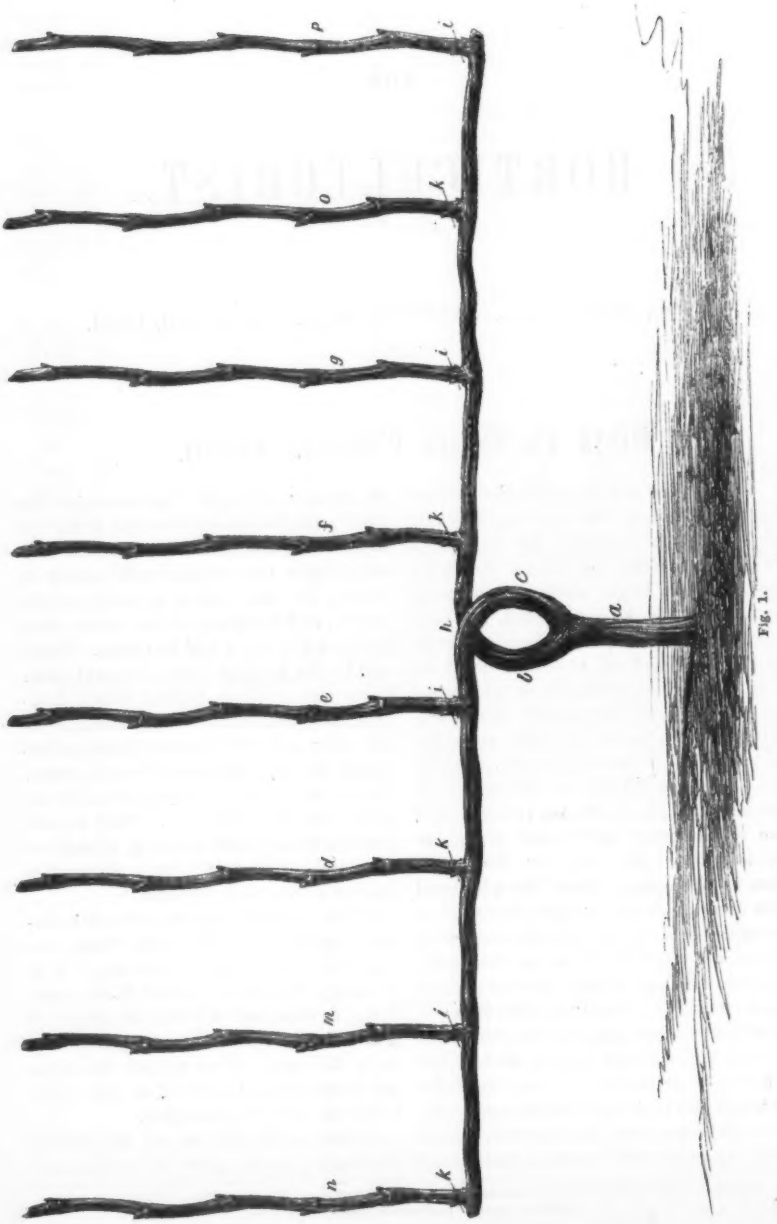


Fig. 1.

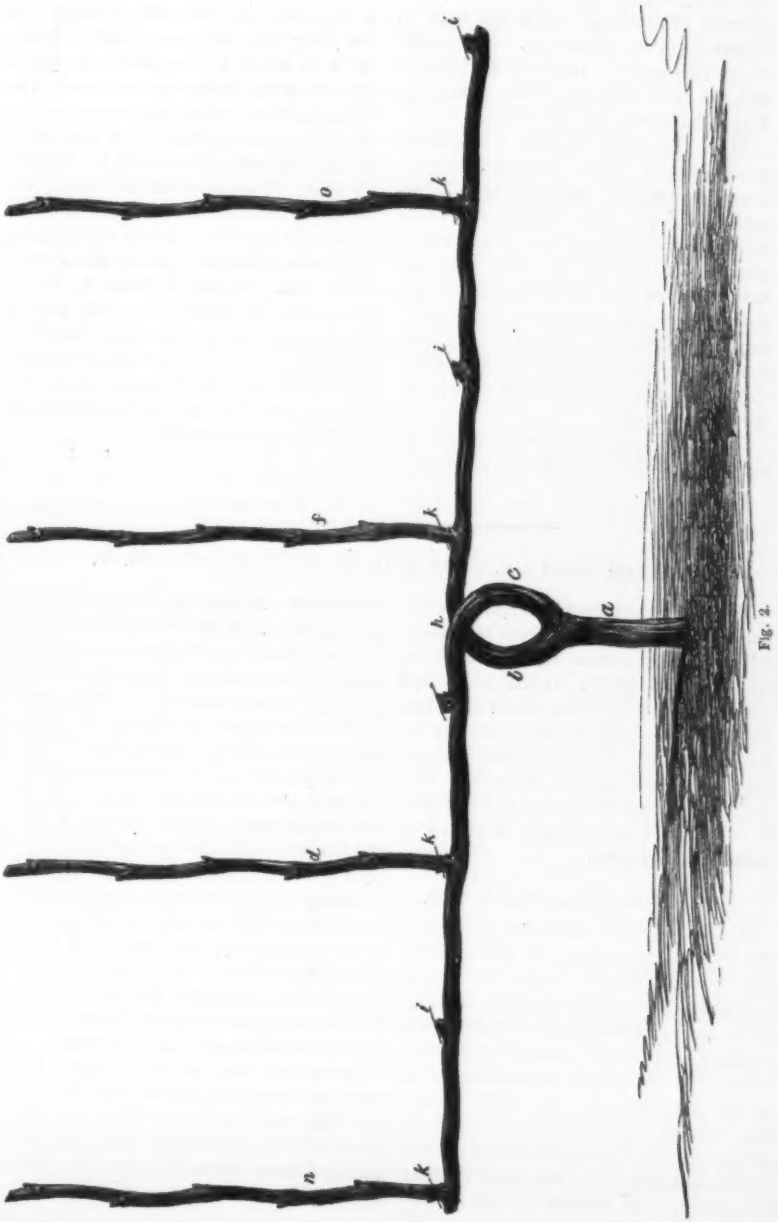


Fig. 2.

The laterals, also, must be pinched in. The process of pinching is just the same as described in our last article. The strength of the vine must be reserved for the fruit and the canes that are to bear next year. *Fig.* 2 shows the vine as pruned.

From the points marked *i* one shoot must be taken. If two push, as will sometimes happen, the strongest is to be reserved, and the other rubbed off. These shoots must be treated like single canes, pinching in the laterals, and tying up the shoots as they progress in growth. Early in September the ends of these shoots may be pinched out, to help the development of the buds and the ripening of the wood. It is these shoots that are to bear the fruit next year.

The next pruning will consist in cutting out the canes that have fruited, and shortening in those that are to fruit. The canes *n*, *d*, *f*, and *o* are the ones that bore fruit this year; they are consequently to be cut off at the points *k*, from which new shoots are to be grown for fruiting next year. The system consists in fruiting yearly each alternate cane, and getting a new shoot from the base of that which fruited the preceding year. The canes that have fruited are cut down, and the others shortened to the capacity of the vine. This is substantially the system first described by Mr. Hoare. Where it is adopted, it would be better to establish it gradually, the best way of doing which we may hereafter describe. We had no idea of illustrating it in this way, till we extended the arms of the single cane, and then the system seemed to work itself out naturally.

LETTER FROM MR. THOMAS HOGG, FROM JAPAN.—NO. V.

We take great pleasure in laying before our readers another letter from Mr. Hogg, full of the most interesting particulars relating to horticulture. It will be noticed that he speaks in warm terms of Lilium auratum, more bulbs of which are now on their way home. It is a fine thing, and we hope may soon become common. Mr. Hogg's friends will be glad to learn that he is well, and industriously employed in hunting up novelties.

Kanagawa, Japan, *Sept.* 8, 1863.

Mr. Editor:—The exclusion of foreigners from the great cities of this country, where, as in other countries, the art of horticulture, as well as other arts of civilization, are to be found carried on most successfully, and in the greatest perfection, renders the means of observation and comparison very limited. Those who pursue the business here are not cultivators to any extent, having but small premises for the sale of plants, all of which are brought from Yedo. The demand is very considerable for ornamenting the grounds belonging to foreign residents, and must be a source of much profit, (estimated at the value of things among themselves,) to the dealers. A large quantity are taken away in Wardian cases by officers of vessels and visitors returning home, few of which probably survive. In consequence of this demand, and its natural result, to bring into the market a greater variety, I have the impression that we are pretty well informed of what they chiefly cultivate.

As I mentioned before, it is remarkable, considering their isolated condition and past exclusiveness, the number of introduced plants that are cultivated. Gardenia florida, G. radicans, Manettia cordata, Vinca rosea, Lagerstrœmias, Pomegranates, Hoyas, Oleanders, &c., are common.

Among the chief novelties I have met with the past spring and summer are the Primroses, of which there are two species (?) or very distinct varieties; one having flowers about the size of a well-grown Chinese Primrose, and in color o·

various shades of purple, plain, and mottled with lighter shades. The other species sends up a strong footstalk, with a crown of flowers on the top, after the manner of a Polyanthus. This footstalk still continues its growth, producing another crown of flowers before the first fades, and so continuing until a third and a fourth are produced in succession. The flowers are also of a purple color, but not so large in size as the first. The leaves of both species are more nearly alike to the Polyanthus than to the Chinese Primrose, and probably the plant requires the same treatment. They will doubtless prove decided acquisitions to the list of early spring flowers.

Another novelty I have met with is a *real* Deutzia sanguinea. This plant, you know, although long enumerated in nurserymen's catalogues, has hitherto proved a horticultural myth; at least, after frequent endeavors to procure it, I found it so. You may imagine my delight in finding it, and with *double* flowers at that. It is a double garden variety of D. scabra, the back of the outer petals being a decided pink color. As an addition to the shrubbery, or for early forcing for bouquets, it will prove invaluable.

While these and others in their turn excited my admiration, the greatest of all was Lilium auratum, which I notice has already been introduced into the States. Never having read any description of it, I was surprised, when I first saw it, that so conspicuous a plant, and so easy of introduction, had been passed over so long; and expressing myself so to a friend who is much interested in horticultural matters, he showed me a figure of it in Curtis's *Botanical Magazine*. It is a superb lily, and deserves all that has been said in its praise. It is plentiful among the hills a short distance from here. L. lancifolium I have not seen growing wild; and on inquiry of an intelligent Japanese gardener, was informed that it is only cultivated. Whether it is only a variety of L. auratum, as is suggested, has an appearance of probability, only that seedlings from it retain all its marked characters.

The many different varieties of Ardisia, unknown with you, are very attractive, not only for their peculiar variegations, but also for their various forms of foliage. They are considered rarities, and consequently are highly valued. I anticipated finding some new and distinct varieties of Azaleas in the season of their bloom. In this I was disappointed, seeing few or none equal to those cultivated in the greenhouses at home. Those chiefly grown are of the Azalea lateritia and Az. punctata style.

One of the neatest variegated leaved plants I have seen is a small, low growing Rose, the leaves of which, in the spring and early summer, are distinctly and beautifully margined with white, with occasional pink stripes. A low growing Euphorbia, with leaves mottled with red, white, and green, is also a very neat plant; and if, as I am informed, it is a perennial, it will be an addition to the cold frame, if it is not hardy enough for the herbaceous border.

The past spring and summer have afforded me an excellent opportunity of tasting the fruits in their season. The first that makes its appearance is the fruit of a species of *Rubus*, apparently more nearly allied to the Blackberry than to the Raspberry. It is of a light yellow color, small in size, with rather soft flesh. The flavor is peculiar, and somewhat insipid, but, eaten with sugar, becomes tolerable enough, and quite equal to some berries at home with high-sounding names that require plenty of the same material to render them palatable.

In the month of June, Apricots come in, and for two or three weeks are very abundant and cheap. There are several varieties, but all small, and about as deficient in flavor as early Apricots are apt to be elsewhere.

Before Apricots are entirely gone the fruit of the *Mespilus Japonica* is brought into market. It is a favorite fruit with the

Japanese, and large quantities are brought in daily. When ripe, they are very juicy, and have a pleasant sub-acid flavor, that may be compared to a fine ripe Harvest Apple. Their size, when in perfection, is about that of a medium sized Gooseberry. Towards the latter end of their season they become smaller, owing, probably, to the overbearing of the trees.

Following these come Plums, which remain in abundance several weeks. Of these, the variety is greater than of Apricots, and some of them equal in size and flavor to those brought into the markets of New York. None, perhaps, equal the Green Gages, or Golden Drops, and other *first-rate* sorts, but quite so to some classed as desirable second-rate Plums.

Somewhat reverse to the order with you, Peaches succeed Plums. Although of fair size and appearance, they are inferior in flavor. This may be partly attributed to the practice of picking all their fruits in a very green state. No fruit suffers more from this treatment than the Peach; yet it would hardly be possible, owing to the tenderness of their flesh, to bring them to market as they should be eaten, ripe from the tree. They are now nearly gone, and have become almost worthless from the injury done them by an insect of the curculio (?) kind, that stings the fruit and deposits its larvæ as does the curculio.

Muskmelons and Watermelons have also been abundant. The former are very inferior, and would not be tolerated on your table; the latter are fair, and would be better, only for premature picking.

Grapes and Persimmons are now making their appearance. The latter, next to the Grapes, are, in my opinion, the best fruit we have; they certainly are the peculiar fruit of the country, and take the place of Apples in our own. Whether they would answer to make pies I do not know; but as the Japanese do not indulge in that home luxury, it does not enter into the estimate of their value.

I had almost forgotten to include Apples in the list of fruits brought to market for sale. Not many are brought in, and their season is soon over. They are a very small, early variety, and when eaten just at the right time, are very passable. Pears, too, are now coming in; those hard, granular, indigestible things you have seen, called the Chinese Sand Pear. As an ornamental tree it has its uses, but as a fruit it can not be recommended. Large quantities of them are consumed by the people. Different sorts are cultivated, one of which keeps all through the winter and spring following.

Until the present season, nothing has been done by foreigners for the introduction of finer fruits (except the Strawberry) into the country.

Last spring, Frank Hall, Esq., and Col. George S. Fisher, U. S. Consul, both made importations of trees from California. Between them quite an assortment of the best varieties of Cherries, Plums, and Pears has been introduced, and are now growing finely in their gardens. Their Peach trees, Grape vines, and a few minor fruits, unfortunately did not do as well. Others, no doubt, will be induced by their success to follow their example, and the best results, by means of private enterprises like these, may be fairly expected, and the introduction of choice fruits create new desires, and lend their aid in civilizing a barbarous people.

RESIDENCE OF THOS. H. STOUT, ESQ., IRVINGTON ON THE HUDSON.

BY MEAD & WOODWARD, ARCHITECTS, ETC., 37 PARK ROW, NEW YORK.

Irvington is a noted locality for the higher grades of country homes, there being many fine examples of substantial, roomy, and elegantly appointed mansions.

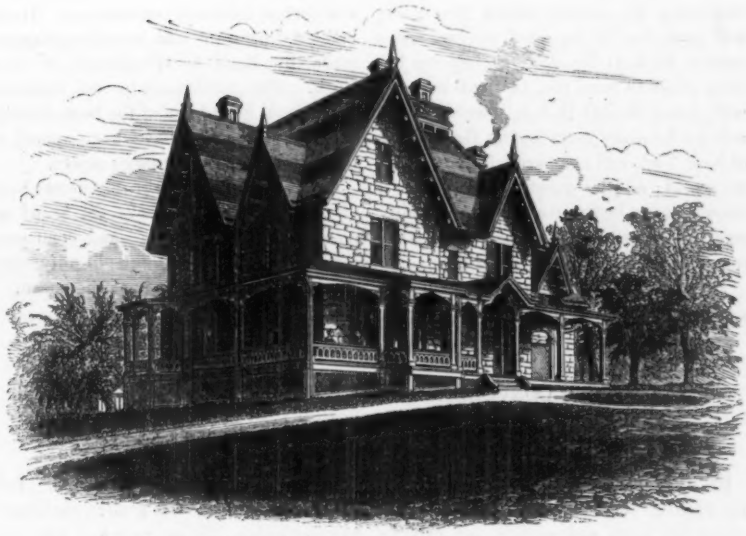


Fig. 56.—Residence of Thos. H. Stout, Esq., Irvington on the Hudson.
Mead & Woodward, Architects, 37 Park Row, N. Y.

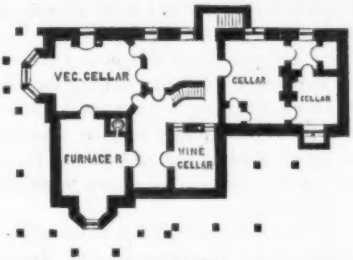


Fig. 57.—Cellar.

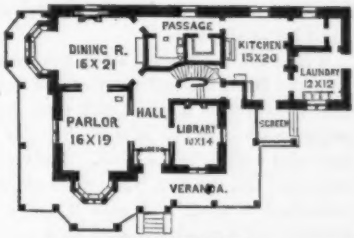


Fig. 58.—1st Floor.

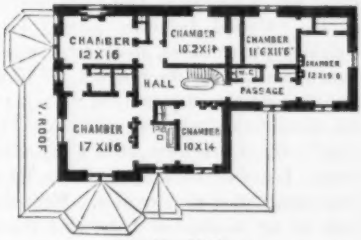


Fig. 59.—2d Floor.

Far within the gradually extending circle which limits the daily intercourse of the business man to the city of New York, it has become, in virtue of its position, healthfulness, fine scenery, and ease of access, one of the most favored of the suburbs of this city; a city whose rapid increase of population and corresponding decreasing comforts in conveyance from one portion to another, is turning the attention of those who like ease of transit, and the quiet and health of the country, to a residence among its beautiful and attractive suburbs. What the last two years have accomplished in introducing rapid and re-

liable communication, and building up and improving the country about New York, will probably be repeated several times over in the next decade. An impetus has been given to rural life, that will increase with every facility that is offered, and it will not be many years before the suburbs of New York will compare with any city in the world; and we question, even now, if elsewhere can be found a suburban locality comparable with the east bank of the Hudson, from New York to the Highlands.

The accompanying engravings illustrate a country house that embraces many of the best features of exterior variety, and interior compactness and convenience. It was erected during the past year from designs made by Mead & Woodward, of New York. The workmanship and materials throughout have been of the best description, and no pains have been spared to make it first-class in every respect.

Situated on the slope of the eastern bank of the Hudson, it overlooks the broad expanse of "Tappan Zee," and commands the views peculiar to this locality, that reach from the Highlands to the ocean.

THE CONCORD AND THE DELAWARE GRAPE.

BY DR. H. SCHRÖDER, BLOOMINGTON, ILLINOIS.

Mr. Editor,—I am not acquainted with the English language much, so you must excuse my style and correct my orthography; but I am acquainted with grape growing, wine making, and wine drinking. Reference, the State Board of Agriculture and Horticulture. But that is personal, and I had better stop here.

Well, I am acquainted, since five years, with the Delaware and the Concord here. The Delaware is a sweet and nice little grape for whoever can raise it; but this is the point with us in the West. I planted, five years ago, the first, "two years old, for immediate bearing." I gave it the best planting, and a treatment such as a young man will give his first sweetheart, and the result was, a blessing of two little bunches of the "blessed Delaware grape," both weighing ¾ of an ounce, apothecary weight. Four years ago the fever struck me hard, and I bought a good quantity of "two years old, raised from single eyes, cut back to five eyes." But it struck me when I unpacked them. I studied with my gardener, for a long time, to find the five eyes. With the help of my microscope I detected them, and—glory was in Germany! Three years ago I bought of another reliable firm in the East a good lot of Delawares; they looked like good plants, and I planted them. Two years ago I bought some grafted on Catawba and Clinton, and last year and this year I planted and planted, but the "day of jubilee" never comes. But I tell you I am an old revolutioner, and never give up, as long as it goes for the right principle. *Next year I will give the good-begotten Delaware one more trial*, and then good-bye forever. Delaware man, now is your time. Show your good plants; send in your price-list for layers of old wood, and help to prove that the Delaware can be grown profitably *in our* country.

The Concord.—I have followed the articles written in the Horticulturist by Messrs. Deliot and Husmann, and I place myself to the right of Mr. Husmann. I have raised the Concord since five years here, and it has proved to be a good, fast grower, a hardy grape, a good bearer, an early grape, and a grape for the people here. It is not quite free from disease, but it gives people a satisfaction. It makes a good, pleasant wine; but whether it will keep for a long time the future time must prove. It is not a wine for a wine-drinker; gives not this good tone to bar Neroes, like the celebrated Catawba, and not a wine like the fiery, amusing Norton's Virginia, (by-the-way, the

best wine in America.) Chorus will say Amen.

To-day I pressed a few Concord berries between my fingers, and I pressed out of the first berry sixty drops; out of the second, sixty-eight drops of pure juice. I did not expect such a high result, but I swear by John Brown that this is true.

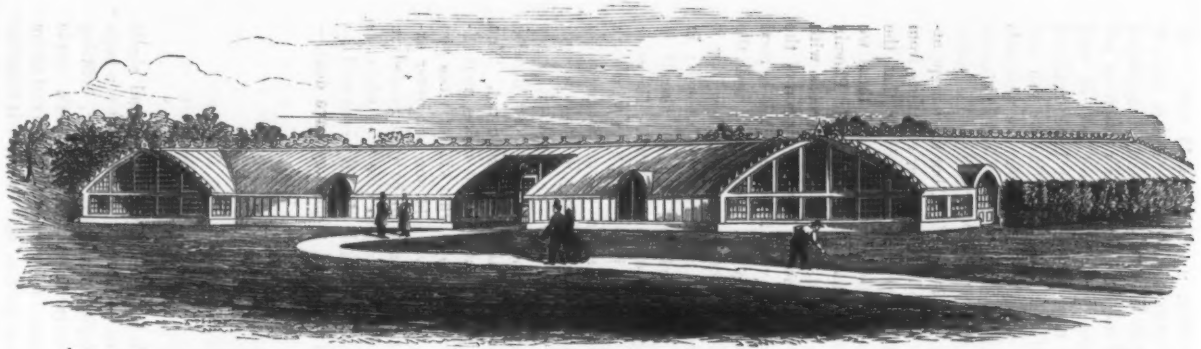
Now, Mr. Editor, I have given you some facts about Delaware and Concord growing in my neighborhood. But this is not to say that the Concord *is the best grape.* If Catawba was free from disease, I would only plant Catawba in mass, and Norton's Virginia for wine only. My Catawbas did do well this year; so my Hartfords, Concords, and Norton's Virginia. But my Herbemonts were a failure. I have a collection of 160 different kinds of grape-vines, and next year, when they are all in bearing, I will give you a correct list, and what they have done. For to-day I must close. We have the HORTICULTURIST for company, and Norton's Virginia wants my attention.

[We have for some time known you, Dr., as an enthusiast in grape culture. We regret, therefore, that you have been unsuccessful in growing the Delaware, the best of all native grapes. We are pleased to know, however, that you do not mean to give it up; and we hope that this time your efforts may be crowned with a great success. We hope so for the sake of the Delaware and your own; for right in McLean County the Delaware, grown according to our "Hints," succeeds as well as can be desired; and you should never "say fail" while any of your neighbors succeed. We shall therefore be greatly disappointed if we do not hear better news from you hereafter. We sometimes hear of such cases near at hand, and have examined them; and the result is, that we can now show you several little Delaware vineyards in fine condition where the Delaware "would not grow." The fault has sometimes been in the vines, but more frequently not. We have a number of letters from the West, proving conclusively that the Delaware does grow there, and these we shall from time to time print. Mr. Phœnix failed at first, but he now succeeds with proper treatment. Your description of the Concord is a very fair one. It is a good grape, but by no means best; and the question for you to consider is, how long it will continue to be regarded as such; in other words, whether it is not already in the way of being supplanted. The wine made from it is certainly not a wine for a wine-drinker; and as we are fast becoming a wine-drinking people, you ought to consider whether it is wise to plant it largely for wine-making purposes. Our decided conviction is, that you should not. You must bear in mind that it makes no possible difference to us what kind of vines you plant, as we never sold one, and never expect to. We aim to be disinterested in such matters, and to give such advice as will be most useful. By all means send the list of vines and what they have done.—ED.]

PLANT HOUSES—NO. VIII.

BY THE EDITOR.

WE give an example of a plant house this month, which in several particulars presents a striking appearance. *Fig.* 1 is a prespective view. It was designed and built for Joseph Howland, Esq., of Matteawan, N. Y. Its broken outline is one of its most marked features, and affords all the play of light and shade that an artist could desire. It is a large and imposing range of building, befitting the character of Mr. Howland's ample grounds. It stands at the north end of the kitchen garden, and conceals it from the dwelling, from which the range is in



Perspective View.
Mead & Woodward, Architects and Builders,
37 Park Row, N. Y.

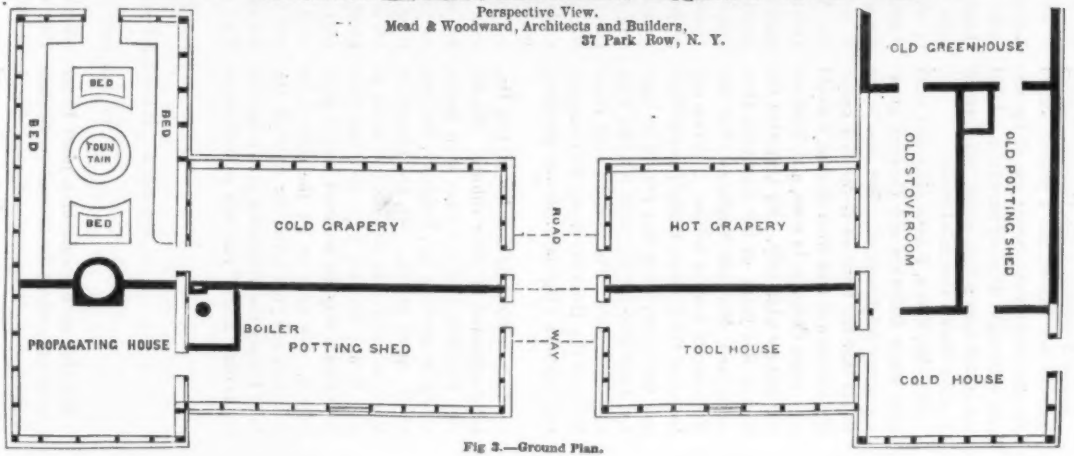


Fig 3.—Ground Plan.

full view. A part of the structure on the right, marked "old green-house," &c., was built some four or five years ago; the remainder, including the "cold house," is new. It will be observed that the range is divided into two parts by a road-way. The design of this was to enable the family to visit the houses at any time in the carriage without exposure to the weather. From this road-way all the compartments of the range are accessible. Across the road-way, between the houses, is a handsome double gate, a sketch of which is given in *Fig.* 2.

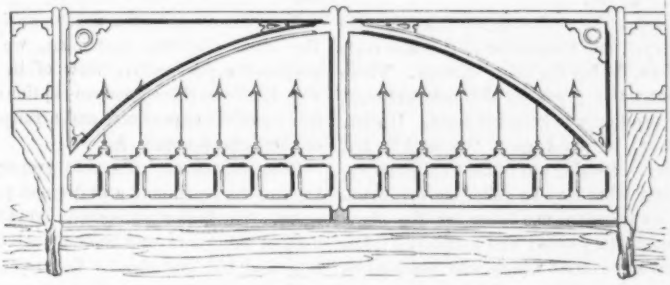


Fig. 2.—Double Gate.

The range is covered with a continuous curvilinear roof of low pitch, bedded in aquaria cement. The north side of the middle houses is covered with boards and battened. End ventilation being impracticable here, top ventilation is increased so as to meet all requirements.

Fig. 3 is the ground plan. On the right

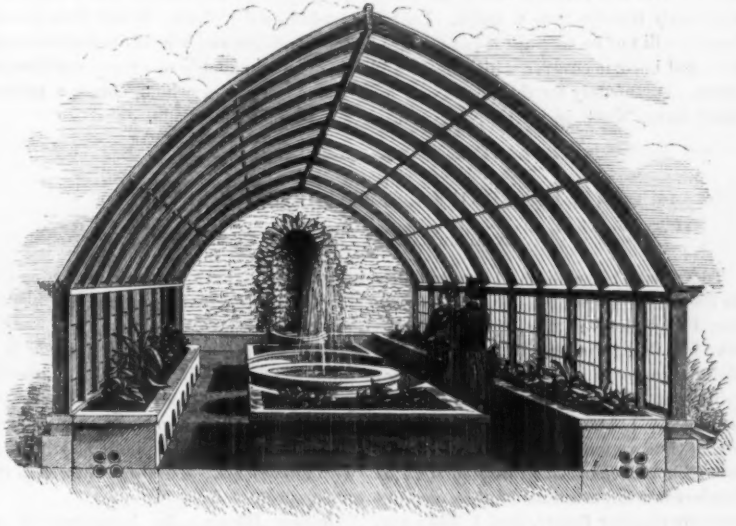


Fig. 4.—Interior view.

is the old green-house, communicating with the boiler and potting-room on one side, and with a hot-house or stove on the other. At the north end, and com-

municating with these, we have on the north side a tool-house, under which is a capacious root cellar; on the south side a hot grapery, the foundation of which rests on piers, to enable the roots of the vines to run into the border on the outside. The arrangement of pipes for heating this house is very ample.

Crossing the road-way, we enter the cold grapery. The foundation of this also rests on piers, the border being outside. There are hot-water pipes in this compartment, to be used only to keep out frost. It may, however, be used as a "second" hot grapery. Passing out of the cold grapery, we enter what may be called the conservatory, its principal use being for the show of ornamental plants; and to this end it has several accessories which add much to its beauty. One of these which may be noticed is a neat fountain in the center; always a pretty feature wherever it can be introduced. Another is a rustic niche or alcove in the north wall, built of rough stones, over and through which the water constantly trickles into a basin. Its full beauty will not be seen till it has acquired age, and become covered with mosses and ferns. Fortunately for the plants and for good taste, there is no shelving in this house. Beds are formed of brick, with a neat coping, in which the pots are set. This arrangement is much more effective than any manner of staging could possibly be. We have never been able to see either the beauty or utility of a series of narrow wooden steps for showing plants on.

In order to give the reader an idea of the interior of this apartment, we have prepared a perspective view of it. (See *Fig.* 4.) From this a good conception can be formed of the appearance and arrangement of the beds, fountain, &c.

Returning through the cold grapery, we have on its north side a boiler and potting room. The boiler pit is sunk beneath the floor of this room, and has connected with it a coal bin and shoot. Communicating with the potting-room is a propagating room, in the north end of the conservatory, and divided from it by a solid partition. It is provided with a hot-water pipe for furnishing bottom heat. It will propagate all the bedding and other plants needed on the place. It will thus be seen that there are ample facilities for furnishing an abundant supply of grapes and flowers. The house, as a whole, forms a marked feature of the grounds.

A DESCRIPTIVE LIST OF CHRYSANTHEMUMS.

BY A. RICHARDSON, FORDHAM, N. Y.

This season hitherto has been the finest for the development of the Chrysanthemum that I have known, the slight frosts we have had doing them no injury. They are literally gorgeous in the extreme. A finer dying out of the floral year can not be imagined. I know nothing to compare with it, but a glorious sunset of a closing day. I am so charmed with some of Peter Henderson's importations of this now deservedly popular flower, that I think you would like to know something of the varieties worth cultivating, taking it for granted that your numerous Grape and other fruit engagements have prevented you from seeing and giving them your special inspection.

Of the *Pompone* varieties, *Coquette* is a picture, of peach blossom color, with rich golden or chrome center. Form so round, and petals so numerous, substantial, and compact, that children might play marbles with the blooms. A first-rate flower in every respect.

Brazen Mirror.—An improvement on Jonas. Color the same, bright chrome yellow with dark brown center, but superior in form, and comes earlier into bloom. A

very showy, distinct, and desirable variety.

Madame Ida Sayionet.—Rosy peach, of surpassing beauty of color; a free bloomer and of fine habit.

Moorie Carie.—Creamy in color during development, but when fully expanded a pure and beautiful white of first rate form and petal. This is quite an acquisition to the few good whites we have.

Ninette.—Of deep ruby color, good form, and an abundant bloomer.

Mrs. Dodd.—Good old "*Nelly*" improved, both in color and form, but not in time, being, like its parent, late in showing its beauties.

La Sibyl—"Gold is dull" compared with its peculiar shade of color, which is rich, beautiful, and pure. We have nothing exactly like it, which makes it of value to the yellow class. In all other points it is likewise perfect.

Antigone.—Is another gem of peach blossom color, each petal having a sharply defined white edge, producing an extremely chaste effect. It is built similarly to "Coquette," and possesses all the same good qualities.

Madame Larocqe.—Deep rosy lilac, of good size, form, and substance; a free bloomer, and of fine habit.

King of Chestnuts.—A misnomer as to color, having too much red and yellow, and too little brown, to be placed in the chestnut class; and under present circumstances I doubt if its other qualities entitle it to the honor of "king;" but I will not decide till after another trial. My plant having prematurely cast its foliage, and looking sickly, the true character of the bloom may be affected.

Orange Boven.—Its name tells its color; very similar to "Miss Lane" of last season, in form and petal, but brighter in color.

Of the *Large Flowering* varieties,

Lady Russell must take the lead, being in every respect one of the most perfect of the tribe. It is unique in color, the inner side of the petal being of pale silvery purple; the outer many shades deeper, tipped with pure gold, and gracefully incurving, produces an enchanting effect. The harmony of color is perfect, and it retains its Dahlia-like form to the last. If the importer don't sell a thousand of it next season, I am no prophet.

Dr. Brook is another very superior flower, also finely incurved; of pale Indian red, shaded and tipped with gold, producing a subdued orange effect, very quiet and beautiful. Quite new in color, and unlike any thing we have.

Model is of the same, but deeper colors; incurves splendidly, but not enough to conceal large hollow centers; therefore it is no model for me.

Miss Slade, of pale amber color, the exact shade of *Leda* of last summer, but has the advantage of being beautifully incurved. A gem.

St. George, a deep shade of orange, with a dash of cinnamon. A new color. It has not yet fully developed itself with me, but bids fair to be good in other points.

Orado.—Deep red, incurved, a fine showy flower.

I do not think you noticed last year's importation, some of which stand unrivaled; for instance,

Madame de Vatry, (pompone,) lilac, dark center; splendid in form and color.

Viscount de Camout, red shaded yellow; *superb* in all points.

Lady Harding, (large flowering,) lilac, gold tip, incurved; a *first class flower*.

Little Harry, brilliant golden yellow; also first rate.

Rifleman, deep red, splendid in color and form.

Cornet, bright red, with yellow tip. Well named. A very fine, distinct, and blazing variety.

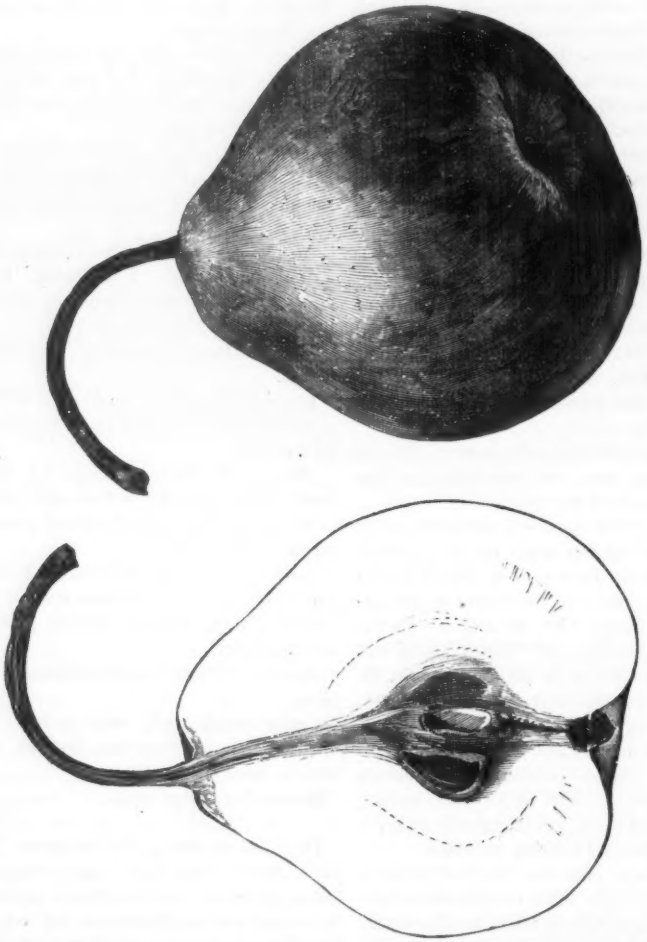
Enough for the present.

[Yes, but not enough for the *future*. The public have a claim upon a man with your knowledge, taste, and descriptive powers. We regret very much that we did not see your Chrysanthemums, but it was not possible. Can you not "do up" the new

Dahlias also? Tell us something, too, about your Sweet Wi liams Phloxes, and other pets. For a change, drop the brush, and paint a few sketches with the pen. We can promise you quite as intelligent an audience as you will find at the "National." —Ed.]

HERICART DE THURY.

BY THE EDITOR.



The portrait herewith presented was taken from a specimen sent us by Messrs. Ellwanger & Barry, of Rochester. The Hericart de Thury is a winter pear, and

must not be confounded with the Hericart, which ripens in the fall. It is a pear of fair quality, sometimes very good, but is not yet much disseminated. The following is a description:

Fruit, medium, pyramidal. *Skin*, yellow, covered w.th cinnamon russet. *Calyx* closed, in a small, uneven basin. *Stalk*, long and curved, inserted in a small depression. *Flesh*, yellowish, somewhat buttery, moderately juicy, with a pleasant flavor. *Quality*, very good for its season, which is from January to March.

HEATING BY HOT WATER.

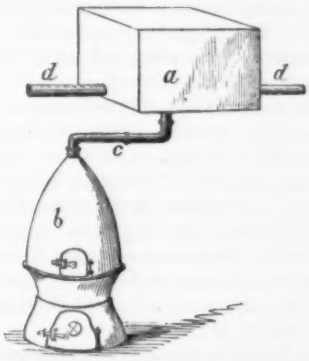
BY J. FLEMING, JERSEY CITY, N. J.

In the construction of horticultural buildings the heating apparatus is of great importance, and should, consequently, receive its due mead of consideration; for upon it depend, in a great measure, the success and pleasure derived from such structures. What is more provoking on a cold night, with the thermometer falling, than to find your house full of smoke, and that the flue won't draw? But the days of smoke flues are fast drawing to a close, although, in a small house, erected merely to keep over a few bedding plants, a pet Camellia, Azalea, or so, the difference in cost or saving of fuel would scarcely justify the adoption of hot water; and if your house and flue are built on the "Dingwallian" principle, that is, on a rise of about three feet in a hundred, it may be made to answer the purpose very well. But when large houses, or several built in close proximity, are to be heated, then is the economy of hot water apparent. You can then by one boiler heat 1,000 to 1,500 or 2,000 feet of pipe, (the most, I believe, any American firm will warrant their largest boiler to heat, although in Europe boilers are made to heat 20,000 feet,) heating different structures to different temperatures, at a great saving of both labor and fuel; a matter well worthy consideration when coal is selling, as at present, from $11 to $12 per ton.

A general impression seems to prevail that hot water is a very complicated affair, requiring a great deal of care and skill to work it, and that you live in constant dread of waking up some morning to find your apparatus blown up and all your plants frozen. Such alarm is entirely groundless. If properly constructed, any common laborer, with a little judgment, can in five minutes learn to work it as easily as a common flue.

The boiler ought always to be able to heat at least one third more pipe than is attached to it. It is very short-sighted economy to have the boiler too small, as it requires far more attention; and if a very cold spell does come, the probability is you can't get the amount of heat desired. Have also plenty of pipes in the houses; you then do not need to heat the water to such a high temperature.

One thing I would strongly advise, although I very seldom see it done, is to flow the water direct from the boiler into



an expansion tank, and from it distribute to the different houses, as in the figure.

a. The expansion tank. *b*. Boiler. *c*. Connecting pipe from boiler to tank. *d, d*. Flow pipes to the different houses.

You can then heat the water to a higher temperature without the least fear of its overflowing, as is often the case when the expansion tank is at the farthest point from the boiler. When a tank for propagating or bottom heat is in constant use along with the pipes for top heat, this is not necessary.

A better circulation will also be obtained by having one flow and two return pipes, than by two flows and one return.

Also see that you have air pipes from both flow and return pipes at all dips, and at the highest point from the boiler.

It is useless for me to encroach on your valuable space by entering any further into the minutiæ of construction, as there are several enterprising firms, both here and in Philadelphia, who devote their sole attention to the heating of horticultural buildings, and who, I have no doubt, will gladly furnish all required information.

[We are much obliged to Mr. Fleming for calling attention to a subject too much overlooked. The suggestion of placing the expansion tank immediately in connection with the boiler is a good one to prevent overflow. The reader will observe the form given to this expansion tank. The common six-inch circular tank will answer only indifferently well. Something of even more importance than the size of the boiler is the size of the fire-chamber; but this, in most boilers, is not under our control.—Ed.]

THE AZALEA AS A ROOM PLANT.

BY THE EDITOR.

There are few plants better adapted to room culture than the *Azalea Indica*. We do not mean by this that it will thrive under neglect, but that, with ordinary good treatment, no plants, not even Cactæ, will bloom better, or yield a larger amount of gratification. This was our experience, after having grown it many years in the parlor. This adaptation arises partly from the nature of the plant, and partly from the time of forming its buds.

The Azalea is not only well adapted to rooms, but, when in bloom, is scarcely surpassed for beauty. A well-grown plant is a complete mass of flowers, a leaf being scarcely perceptible. It is emphatically a gay plant, fairly reveling in its profusion of bloom. There is no collection of room plants so small that it should be without it. We propose to give a few brief directions for its culture.

The Azalea is not easy to propagate in rooms, though it may be done; the proper course, therefore, is to purchase the plants of the florist. We will suppose the plant to be a small one. As the florist keeps his plants in small pots, your Azalea will probably need potting as soon as purchased. A suitable compost may be prepared of muck, loam, and charcoal dust or sand, in about equal proportions. If muck is not at hand, take some light garden loam, and mix with it a third of charcoal dust. They should be thoroughly incorporated. The Azalea is now to be shifted into a pot one size larger than that in which it is growing. Place a potsherd over the hole in the bottom of the pot, and throw in a few pieces of broken charcoal or small stones for drainage. On the top of this place some compost, and then put in the ball of earth containing the plant. The top of the ball must not be less than half an inch below the rim of the pot, and the quantity of earth placed in the bottom must be regulated accordingly. Having adjusted this point, fill in around the side, from time to time jarring the pot to settle the earth.

When the vacancy is nearly filled, the earth must be pressed down somewhat firmly with the thumbs or with a blunt stick, technically called a potting stick. The potting being finished, the plant should receive a good watering. If the potting has been properly done, the top of the pot will hold just about water enough to go through the ball of earth. It is a common mistake with novices to fill the pot too full of earth, and plants often suffer great damage in consequence, the water going only half through the ball. The lower roots become so dry as to die off, which greatly enfeebles the plant, so that it sometimes drops not only its flower buds, but many of its leaves.

The Azalea may be left out of doors till there is danger of severe frost; the longer the better. A little frost is not likely to injure it; in fact, we have grown Azalea Indica alba in the border as a hardy plant, with no other protection than that afforded by the shrubbery in the border. When the plants are taken in they should be placed in a room having a southern exposure, and set on a table near the window. It is not necessary that the Azalea should be placed very near the window until it has passed out of bloom and begun to make its new growth, when it should have all the light that can be given it. The *lateritia* class form an exception, since they make their new growth either while in bloom or just before it; they must therefore, at this time, be placed in a good light, especially if the temperature of the room be pretty warm and dry. No plant in a room is likely to receive an undue share of the blessed sunlight.

Watering must be carefully attended to. The Azalea should at no time be allowed to get too dry, or its fine, delicate fibers will die off. When in bloom, and while making its new growth, the supply of water should be regular and abundant, without, however, running into the extreme of making the earth a mud puddle. The water should be tepid rather than cold. The Azalea, as well as some other plants, is often injured by having a stream of cold water poured against its body and main branches.

As soon as the weather will permit, the plants should be removed out of doors, and placed in some sheltered spot, but where they will not receive the drip of trees or shrubs. The plant itself is rather benefited than otherwise by receiving the direct rays of the morning sun, and it may be fully exposed, provided the pot is protected. A good plan is to place the plants in rows, and stand a board against the pots to break off the sun's rays. Moss or straw may also be thrown around the pots, or they may be protected in any way most convenient, so long as it is well done. It is well, also, to cover the ground with a couple of inches of ashes, to prevent earth-worms from entering the hole in the bottom of the pot.

A few words may be added in regard to repotting. The best time for the amateur of room plants to do this is in the fall of the year, just before the Azaleas are taken in doors. The compost already described is to be used. While the Azalea is young it should be potted generously, to increase its size; but large room plants are unmanageable and in the way, and it is therefore not desirable to encourage them to grow too rapidly. Our advice is, to repot a young Azalea annually for the first three years, and after that biennially, always using a pot only one size larger than that in which it is growing.

The winter treatment will be the same as that described above, always taking in the plants as late as possible, and putting them out in the spring as soon as the weather will permit. The Azalea blooms in rooms from January till April, depending much upon the temperature of the room. In a hot room we have seen them in bloom in December, and we have often had a fine show of them on New Year's day.

Insects do not trouble the Azalea much. The red spider will sometimes attack it, but its chief enemies are the scale and

mealy bug. The red spider may be washed off with soap suds. The scale and mealy bug should be picked off. The scale attaches itself principally to the trunk and branches, while the mealy bug seeks concealment in the axils of the leaves. A pin or a sharp-pointed stick will readily dislodge them. The plant must be kept clean and free from insects to insure its health.

In a single article the treatment of the Azalea can only be given in somewhat general terms; yet enough has been said to enable the young amateur (for whom alone this article is intended) to commence a successful course of practice. We have said nothing about growing the Azalea as a specimen plant, because few or none are willing, in a room, to give it the time and space necessary to success. Amateurs who have green-houses can thus grow them very cleverly. A descriptive list of some of the best kinds would make the subject more complete; but this must be reserved for another article.

THE PERKINS AND OTHER GRAPES.

BY J. W. MANNING, READING, MASS.

I THINK this grape was sent out from Bridgewater, Mass., nearly ten years ago. I have fruited it two years. It is hardy, but not remarkable for earliness, bears and clusters well; looks well a little before it is ripe; has a sweet good taste if swallowed at once; but it drops from the cluster, which condemns any grape, and is foxy. How it can be said to be "nearly as good as Diana," I can not comprehend. I have one hundred varieties of native grapes on trial; forty varieties bore the past season. I rank the Perkins about the twelfth place among my bearing kinds. It is not desirable while better grapes will grow as well.

Diana has done very well the past season; better than in any season since 1856. Previous to that, it ripened every year, and was frequently in good eating September 1st. It speaks well for any grape to be good two weeks before it is ripe. It is one of the best grapes for winter keeping.

Delaware has not done well with me, but noble specimens have been shown, grown in this vicinity.

Creveling promises to sweep Hartford Prolific from the field. Rogers's Hybrids all propagate readily, grow vigorously, and are healthy. No. 19 ripens before the Concord, and is much preferable as a table grape.

Allen's Hybrid has won a proud rank, and will, doubtless, hold it, if a little winter protection is given it, which it is well worthy of.

Concord is the grape for the million yet; it will long retain a prominent place. I was told by retailers of fruits in Broadway, New York, at the time of the grape show, October 1st, 2d, and 3d, "that at the same price, ten pounds of the Concord could be sold to one Delaware." That is the great point growers of fruit want to come at, "what will sell the best." The taste of the great mass does not yet reject all grapes that look and taste *good*. The Delaware is a *better* grape. Something else may be *best*. Time will prove them all.

A great change is slowly conquering the common test of "first rate grape." I know men who could extol a grape of the Charter Oak character with a clear conscience ten years ago, who now as freely pronounce all grapes as not fit to eat or cultivate, unless equal to Diana or Delaware. It is expedient to cultivate what will gratify the buyer. Let us test all, allow all to taste, and time will cause a change, that will surprise all who recollect what a poor grape was called "*good*."

[Neither can we comprehend how the

Perkins should be called "nearly as good as the Diana." We think there is a wide gap between the "nearly" and the "good;" though it is natural enough that persons who have been confined mainly to our wild grapes should esteem the Perkins good; and there are others who esteem grapes good if they are simply *sweet*, without regard to spirit or flavor; but in time, and by degrees, they learn that there is a higher excellence than mere sweetness. The Diana is one of our best grapes. Its only drawback is, that on young vines, and in some seasons and localities, it does not ripen uniformly. If noble specimens of the Delaware have been grown in your vicinity, you should strive to equal them. Perhaps some part of your treatment has been faulty. We predicted several years ago that the Hartford Prolific would be superseded, and it is safe to say that its course is nearly run. We now have others as early, and a great deal better, and there is no reason, therefore, why it should continue to be planted, except in collections. It should not be forgotten, however, that it has performed a good work in its day. We think the Allen will hold its present position, and grow in public favor. It is an excellent grape, and is no doubt hardy enough for a widely extended cultivation. The Concord will be largely grown for a while yet, but not as long as many suppose. The fruit dealer who told you, "that at the same price, ten pounds of the Concord could be sold for one of the Delaware," perpetrated a very broad joke. Now let us try it for a moment. In the first place, the fruit dealers have had no facts to warrant any such conclusion; in the second place, the facts are all against them! The truth is, there were very few Delawares in Broadway for sale, and they sold rapidly at from forty to sixty cents a pound, and in a brief time they were all gone. Concords, at the same time, were selling at twenty cents a pound, and a little later at twenty-five cents. As you say, a great change *is* going on, and that change is teaching the masses the difference between a grape that is first-rate, and one that is not. To that end we have worked. —Ed.]

WAYSIDE THOUGHTS UPON ARCHITECTURE.—No. II.

BY ARTIFICER.

Painting.—In performing the necessary manipulations for house-painting, the priming coats for exterior work should be mixed with clear old white lead and pure linseed oil, in about the proportion of ten pounds of white lead for every *two* quarts of oil. For interior painting, it is best to use with the lead boiled linseed oil exclusively, instead of *raw*, or a proportion of boiled and raw, as is sometimes done, with a small quantity of patent dryer ground in turpentine, which will cause the priming to set quick and form a body without dripping. For exterior second coat work use the priming process, and add thereto sufficient white lead to make the paint quite stiff. If neutral tints are used, then estimate about two-thirds of the above proportion of lead to be added to one half its bulk of color, and all the oil they will take. This, as a general rule, and for common use, is sufficient. But as there are several degrees of strength, of fineness, and of quality in colors, so there must be many rules, or rather no definite rules at all; only, artist-like, a conception of what is demanded, and a constant working with muller, paint, and brush, until it is answered in the very tone and impression sought. For second coating interior work, grind the white lead in raw linseed oil to the consistency of thick paste; then reduce it with turpentine until in a proper condition to spread with the brush, using, as a general

rule, an equal quantity of oil and turpentine, to complete the mixing process. The second may sometimes be made a finishing coat by the addition of a larger proportion of turpentine, and by straining the color carefully, and adding a portion of the finest French zinc, equal in proportion to half the quantity of lead used, supposing the finish to be a clear dead white. For neutral tints, the addition of the required color in the proper proportions to the white, mixed as above, for a base, is sufficient. I would not, unless in some exceptional cases, advise the use of two coat work for completely finishing the wood work, but wish to be understood as urging the necessity of not stopping short of good *three* coat work, and in some cases four and five coat work.

In preparing the third coat, if designed for a dead white, the ingredients should be first, equal parts of the best old American white lead, and the best quality of French zinc, ground in equal parts of raw linseed oil and turpentine, as stiff as possible, and afterwards reduced with all turpentine to the proper consistency for use.

If it should be required to finish with a superior gloss, (technically termed China gloss,) then the work must receive a coat of white shellac upon the priming, and the last or third coat should be composed of three parts zinc to one of lead, ground in oil and turpentine, and reduced with the latter, and after becoming dry should have, in addition, one coat of the best white varnish, and to perfect the gloss, add still another coat.

An exceedingly beautiful white paint for interior wood work may be obtained by the following process: To one half gallon of turpentine add twenty ounces of frankincense; place it over a fire to dissolve, after which strain and put in cans for use. To one quart of this mixture add three quarts of bleached linseed oil. To these two mixtures combined add equal parts of clear old white lead and the best *French zinc*, ground in turpentine. Strain them; and if too stiff, reduce with turpentine, as for other interior work. Paint prepared in this manner gives out scarcely any odor, and if well done, will preserve its fine finish many years; but its great cost, compared with the commoner kinds of white paint, prevents it coming into general use.

Graining.--If we were disposed, and could always accept the conditions of procuring and preparing the better class of woods for house finishing, it would be better to do so, on account of their real and undisguised worth, and the consideration in which they are held in all true architecture; but in the absence of an abundance of the rarer and finer woods, as walnut, oak, cherry, rosewood, maple, and mahogany, graining in imitation of these has seemed to become, in these days of rapid building, highly proper, and an almost universal vehicle of covering for soft wood finish, and for ornament; and since it is thus thought to be rarely possible, and seldom expedient, to employ woods richly veined, and susceptible of oil and polish, there exists suitable reasons for grained imitations, when we know and accept them as such; the same as we would use gilding in the absence or scarcity of gold, or stucco ornaments instead of and to represent carvings in marble.

Graining may be properly employed in nearly all branches of domestic architecture, but should never intrude in the higher fields of civil and ecclesiastical architecture.

It may be employed upon the wood-work of dining-rooms of a cheerful oak imitation, on walls, saloons, and lobbies, either in oak or walnut. In libraries, in imitation of English walnut, rosewood, or old oak. Bed-chambers and closets should never be painted white, but be grained in imitation of chestnut or pollard oak, whose tones are quiet and subdued, without glare or reflected lights. Kitchen and kitchen offices may be grained in imitation of either oak, maple, or chestnut, provided it be finished in oil, and not varnished; otherwise a flatting of good warm drab or French gray, on two coats of priming, with lead and oil,

will be found both serviceable and easily kept clean.

A good piece of grained work, like any other work, derives its chief excellence from good and proper materials and skillful handling; and to answer fully this last demand, it is required that the artist or grainer study closely the character and grains of the woods to be imitated, and also enter into an analysis of them all. But I desire to afford the reader facilities for judging of, and selecting good materials for graining, (if he does not already know,) and hence shall repeat the process as briefly as possible for some of the best grains in modern use.

Oak.—To prepare a rich ground for oak graining, take old white lead, three parts, burnt terra sienna three parts, stone ochre, two parts, chrome yellow, one; put on two coats, and when dry apply the graining color, composed of raw terra sienna, Vandyke brown, and whiting in about equal portions ground in oil or beer; add about four ounces of gum Arabic, dissolved in a pint of hot water. Mix it well with the other ingredients, and when perfectly dry, varnish with two coats of copal varnish.

Old Oak.—To imitate old oak, make a ground of about equal parts of stone ochre and burnt terra sienna, with one part lead ground in oil. Put on in two coats, and prepare the graining color of either burnt umber or Vandyke brown mixed in oil. Another method, which I think superior to the last for old oak *grain color*, is to grind Vandyke brown and whiting in turpentine, and add a small quantity of common soap to make it stand the comb.

Pollard Oak.—A species of graining used considerably in England, and more mottled than common oak, may be imitated by preparing a ground of chrome yellow three parts, vermillion, one, white lead, three; when mixed the result will be a rich buff. The graining colors are prepared from equal parts of Turkey umber, raw terra sienna, and burnt white vitriol, ground separately in oil to the consistency of paste, and reduced with turpentine, taking care, however, to keep a sufficient quantity of oil in the colors to bind and finish well.

Mahogany Grounds may be prepared in the following manner: To twelve or fourteen ounces of English Venetian red, add three ounces of chrome yellow and one ounce of vermillion, ground in equal portions of oil and turpentine. This ground must be applied to the wood in two coats, upon a priming of lead and oil, quite stiff, stained with a little red lead. The graining color may be prepared with raw and burnt terra sienna, in equal parts, ground in ale. To imitate mahogany more perfectly, there may be a top grain prepared of burnt sienna, and applied after the first grain color has been worked with mottler and softener, and become perfectly dry.

Rosewood may be imitated by preparing for a ground with one part white lead, one part crimson lake, and two parts vermillion, ground in oil and put on in two coats. The graining color is prepared of Vandyke brown, ground in oil quite thin, with a darker after-tint of the same kind of color, to be used with the graining brush, to soften and draw the more delicate veins over the work. When dry, apply two coats of varnish, reduced, if need be, with alcohol, to preserve its gloss.

[To be continued.]

[We have divided "Artificer's" article on painting, in the hope of being able to illustrate that part relating to *neutral tints*. —Ed.]

AMERICAN EVERGREENS.—NO. IV.

BY C. N. BEMENT.

We cultivate plants with a view to their rarity as well as their beauty. Evergreens, to the eye of taste, are particularly pleasing in winter; more pleasing when distrib-

uted by the hand of man round his dwelling, than when seen in the forest; not that the cultivated plants are more beautiful, but beautiful and rarer.

Evergreens, in the color of their leaves, vary exceedingly. The unsheltered leaves of the Red Cedar are greatly discolored; and the Hemlock, in open situations, is a pale green. In unchanging verdure and brightness, we have seen no tree that excels the Balsam Fir. These trees, when taken from the mountains, seldom succeed, unless first placed in the nursery. This is true, when set in grass-plats, and left to themselves. In droughts grass lands become comparatively dry, while cultivated soils remain moist. We planted several evergreens from a swamp rather shallow, as most evergreens ought to be planted, and laid round plenty of old hay to keep the roots *moist* and *cool*, and to destroy the grass. With this treatment they will most generally succeed.

Turn we now our attention to another family, the broad-leaved evergreens, and commence with

The Kalmia, or *Laurel*, as it is commonly called in the Northern and Eastern States. It is a North American genus of hardy shrubs, remarkable for the beauty of their flowers. Botanists say there are ten species, all handsome. Nuttall describes five species of Kalmia found in the United States. It is found from Canada to Florida. It is found on shady borders of woods, rocky hills, in the deep shady ravines of mountains, and blooms its beautiful flowers in the months of June and July; and being an evergreen, adds materially to the landscape in winter by its dark green leaves, which always give a cheering expression at that dreary season. In most other places, and especially on open grounds, it rarely exceeds three or four feet in height. On open, rocky pastures, it forms a large, close clump on islets, intersected by plots and alleys and grass. In June and July, when every one of these innumerable green islets is crowned with white or rose-colored flowers, and cattle are feeding on the grass, or laying under the few oaks which are scattered through the pasture, the whole is worth going to see.

Whoever has passed up or down the Hudson River in the months of June or July, that possesses the least taste for the vegetable treasures of creation, could not fail to have noticed and admired this splendid flowering evergreen shrub, growing among the rocks in the Highlands.

The Kalmia is rather difficult to cultivate when taken from the woods, but may be increased by layers or seeds. They grow best in peat soil, though they will grow in a sandy loam. They are too beautiful to be overlooked, and should find a place in every lawn and pleasure ground.

The Holly.—A handsome evergreen tree, of slow growth, with a smooth, gray bark, which abounds in mucilage. The flowers are copious, tinged externally with purple, the earlier ones least perfect. The berries are scarlet, casually yellow. The Holly grows in hedges and bushy places upon dry hills. Numerous variegated varieties are kept in gardens, and one whose leaves are prickly on the disk.

The American Holly of the United States is a handsome evergreen, which, though in the Middle States a mere shrub, in others assumes the dignity of a tree. Seven or eight additional species are found in the United States, chiefly in the South.

The Evergreen Honeysuckle.—The American evergreen Honeysuckle is the most beautiful and valuable, for it flowers from June till the frost nips its blossoms. It has strong branches, bearing evergreen leaves and fragrant flowers, which are bright red outside and yellow within. All the sorts are produced or propagated by layers or by cuttings. The Honeysuckle loves almost any soil, provided it be not too dry.

The Holly-Leaved Berberry.—This is a fine evergreen shrub. Its habit is spreading, and it attains the height of three or four feet. The foliage is a dark green, glossy, and prickly, like the Holly. The

flowers are produced in large heads or clusters, and are a beautiful clean yellow color. They begin to open early in April, and continue throughout all May. A single plant, or a mass of them, in a lawn, produces a fine effect. The color contrasts well with the brilliant scarlet of the Japan Quince—Pyrus Japonica—in bloom at the same time. This variety succeeds well in any soil and situation, but, if possible, it should be in a somewhat shaded place, where the sun will not reach it in winter with force. It is so low, however, that it keeps pretty well in the shade. It is easily propagated from seeds and by division of the plant, as it throws up radical shoots freely.

The Privet.—The common Privet, or Prim, as some call it, is a hardy shrub, growing from five to six feet in height in its wild state, tenanting rather moist thickets and hedges, on a gravelly or rocky soil, but it grows well in any situation and in all soils. It may be propagated by seeds, layers, or cuttings. The plants are well suited for making cut-hedges in gardens, especially the evergreen varieties of the common Privet. The branches are straight, and filled with pitch, and the wood is hard. A variety of the Privet may be found growing in a wild state, on the high, rocky, moist lands south of the Sailor's Snug Harbor, Staten Island.

The Yew Tree is a genus of ornamental evergreen trees, well adapted for underwood, as they thrive under the shade and drip of other trees. They are also very ornamental when planted to form hedges. They will grow in any moist soil, but succeed best in loams and clays. They are chiefly propagated from seeds, which should be sown as soon as ripe; but can also be increased by cuttings formed of either one or two years' wood, and planted in a shady border, in the beginning of April or the end of August. In England the common Yew tree is the only indigenous species. "The trunk is straight, with a smooth, deciduous bark. Leaves, two-rowed, crowded, linear, flat, and about an inch long, and dark green. Fruit drooping, consisting of a sweet, internally glutinous, scarlet berry. The leaves are fœtid and very poisonous, and prove speedily fatal to cattle accidentally tasting them when young and tender. The berries have a sweet, murkish taste, and may be eaten without danger."

We have noticed several fine specimens of the Yew tree growing at Haddonfield, N. J., said to have been imported from England more than one hundred and fifty years ago. They were trimmed or trained into different forms, such as globes, pyramids, &c., one or two looking more like a green hay-stack than any thing we could liken them to. We have also found a dwarf or prostrate variety of the Yew in the vicinity of the Catskill Mountain House. The foliage is a dense mass of dark green. In England it is more generally found in grave-yards than any other tree.

The Water Andromeda is a low evergreen shrub, found on the borders of swamps. Linnæus has thrown a charm around this delicate shrub in his description of it, published in his Tour in Lapland, where he compared its flesh-colored corolla to the beauty of a fine female complexion. It requires protection in winter.

Dwarf Cassandria is another low evergreen shrub, distinguished for its copper-colored leaves and showy vernal flowers. Found more common than the Andromeda, and requires the same protection.

The Ink Berry is still another evergreen shrub, of a handsome appearance, with the flowers in the axil of the leaves, succeeded by black berries. It is usually found in wet swamps, but it may be seen on the margin of the Magnolia Swamp, in Gloucester, Mass., in a comparatively dry and rocky soil. Under cultivation it is well to give it protection in winter.

The Cow Berry, a very rare woody plant, is found in North Danvers, Mass., and is distinguished for its fine evergreen leaves, its pretty pink flowers, and small red, acid

fruit. It is found in a dry soil, of easy culture, and may prove worthy of cultivation for its fruit, as it can be used like the cranberry, which it much resembles.

[Mr. Bement's copy being imperfect, we close his article here, with the hope that he will complete it in our next.—Ed.]

OF VARIABLENESS IN THE PEAR TREE. (EXPERIMENTS MADE IN THE MUSEUM OF NATURAL HISTORY, FROM 1853 TO 1862, BY M. DECAISNE.)

TRANSLATED BY L. V. DOVILLIERS.

In 1853 I sowed a large number of pear seeds, chosen the preceding year from well known and distinct varieties, viz.: our old English pear, known to every body, the Bosc pear, shaped like a long gourd, and of a cinnamon color; the Belle Alliance pear, rounded in form, of a red and yellowish color; and the Sanger pear, a wild variety, or nearly so, and thus named because its leaves recall, by their whitish, velvet-like appearance, that of the common sage. For this last sowing, I have used all the crop of a tree which grows isolated from all others.

Only a small number of these trees have begun to bear, otherwise the results might have been still more satisfactory.

Thus, in the variety of the Sanger pear, the only trees that have borne fruit have given four distinct varieties: one ovoid in form, quite green in color; the second less elongated, and almost maliform, partly red, partly green; a third still more rounded; finally, a fourth, regularly pyriform, more than twice as large as the preceding, and entirely yellow.

From La Belle Alliance pear have come nine new varieties, none of which resemble the parent fruit, either in size, color, or time of maturity. There are two especially that I will notice, one for its size, more than double that of La Belle Alliance pear; the other, by its rounded form, resembles maliform pears.

The Bosc pear gave equally three new fruits different from the type, one of the three being so similar to one of the fruits obtained from the Sanger pear, that it is hardly to be distinguished from it. The varieties are quite as numerous as in those of the English pear, the six trees that have so far given fruit having produced six new forms, as different from each other as from the parent stock. One of them gave winter fruit not unlike the St. Germain pear.

A great many horticulturists believed, and Van Mons among them, that the seed of good fruit produced wild trees with sour fruit, thus going back, as it is supposed, to original types. I do not hesitate to affirm to the contrary; and I defy them to cite a single example of a fruit of good quality, fecundated by the pollen of its own flower, whose seed has given birth to a wild tree. Should a good variety, artificially or by insect, be fecundated by a wild one with sour fruit, there will certainly come from these seeds new varieties which will mostly, if not all, be inferior to it. It is equally certain that any good variety of the pear tree, or even of all our fruit trees, self fecundated, will produce good fruit. They will probably differ in some feature or other from the parent variety, but none will take the type of the wild specie.

[This is a most interesting subject, and we thank our correspondent for the translation. The Van Mons theory has now few followers. In raising seedlings from cultivated varieties of fruit, the variations will often be remarkable. The variations are more striking in some kinds of fruit than others. But this is a subject that can not be followed in a note. We shall have some interesting facts to present when speaking of seedling grapes.—Ed.]

GRAPES AT ST. LOUIS.

BY J. M. JORDAN.

Mr. Editor—I always read with much interest your articles on the cultivation of the *grape;* for that is a subject that interests many here in the West, and as we are yet experimenting with many kinds, I believe we have arrived at the conclusion of a few facts in regard to *some* varieties of grapes. I read with much interest the article in the July number, by "D.," on the *Concord.* Also, the reply in the next number, by our friend from Hermann.

There is no use to try to make the water in the Mississippi run the other way, or to convince the thousands that the Concord grape is not a good one to grow, to sell, to make money, to feed the millions on, in this great valley. Our Eastern friends must know that Western men love the big things—lakes, rivers, valleys, prairies, and *Concord grapes.* I have some twelve hundred vines, four years old, in full bearing, (as you could expect,) after propagating some sixty thousand layers. I don't pretend to be so perfect in my taste as to decide on the merits or demerits of a grape, but I think the best way is to let the masses decide. They have called for grapes, and we have given them Concord; and they have said they were good, very good.

I must say, I believe friend "D." underrated the Concord, as did our friend at Hermann the Delaware. I have a number of hundreds of Delaware doing very finely, and shall plant more this fall. Men's tastes differ; some men say *lager bier* is sweet; but I think it would be hard to convince our children of it, or that the Delaware grape was *not* sweet. Of all the different kinds I have, I prefer the Delaware. It is a good grower on rich, well-drained loam, or sandy soil. In poor clay I would advise grafting it on a native vine, or Clinton. Here the Delaware grows enough; just right for vineyard culture, where we grow to stakes, and I think in a few years will be largely grown.

I would gladly speak of many other kinds, but have not grown them long enough to prove them, such as *Rogers' Hybrids;* but I shall *never* try to sell any grape that is not worthy of a specific name. This numbering of grapes is very troublesome to the propagator, and should be discountenanced by men in the trade. The Taylor is a very rampant grower, and must be planted on poor soil. It will not bear high cultivation; it is apt to blast. On poor soil it does well by leaving on plenty of wood. Hartford Prolific is doing finely. The Creveling promises well. If desirable, I will keep you posted on some sixty varieties.

Mr. Editor, as you have promised to visit Hermann this fall, I would be pleased to have you call here on your way, and we will be able to show you some grapes, as well as fine pears, and tell you what we are *going* to do.

[We are glad to hear from you. As you say, there is no use in trying to make the Mississippi run the other way. In regard to the merits of grapes, the masses will no doubt decide this matter in the right way in good time. Their tastes are now being educated for the purpose, and we daily see illustrations of it. In regard to D. and Mr. Husman, they both admitted the Delaware to be the best grape. They disagreed, however, as to which each could grow most profitably. The disagreement, we believe, has been amicably settled over a bottle of Delaware wine. We shall be glad to hear from you about the other grapes referred to. We were prevented by illness from making but few visits this fall; but we have arranged to travel west with Mr. Downing next fall, and take all our parishioners by the hand.—Ed.]

MONUMENTS.

BY A PARISH MINISTER.

The subject of monuments to our departed kindred and friends, is one which I do not remember to have seen in the Horticulturist; and yet, it seems to me, it might properly come within the scope of your journal, as a subject which touches our profoundest feelings and most sacred associations. Within the last twenty-five or thirty years, much interest has been manifested in rural cemeteries, and very large expenditures have been made in the neighborhood of many of our cities in establishing and beautifying those sleeping places of the dead. Take, for example, Greenwood, Mount Auburn, and Laurel Hill, the cemeteries of three of our principal cities. They are thickly sown with the sacred dust of the dear departed, who have gone before, and who are silently awaiting the great resurrection. It is meet, certainly, that their resting places should be marked by some monumental stone, some fitting memorial of the affection of the living, and the virtues of the dead. And so they are designated, in many instances, by the costly cenotaph and the richly sculptured marble. In the neighboring cemetery of your own metropolis, almost as much cost has been lavished upon the embellishment of the city of the dead as the city of the living. But in neither of them can much be said in favor of the taste displayed in the bestowment of so much cost.

We are a Christian people, professedly. We commit our kindred's dust to the earth, "looking for the general resurrection in the last day, and the life of the world to come." Our Christian creed comprehends an uprising through Him who is the Resurrection and the Life. But in most instances there is no recognition of this faith in our cemeteries beyond the solemn words used in the burial of the dead. Our headstones, and monuments, and tombs are not Christian in their form and symbolism. Heathen or classic devices, urns or inverted torches, Egyptian cenotaphs or unmeaning sculpture—under such as these sleeps the dust of those who died "in the comfort of a reasonable, religious, and holy hope," and were buried by Christian hands!

It may be said, indeed, that these forms and symbols are varied and graceful, and do not offend a cultivated taste, while the ruder monuments, in which these old established forms are not found, would be distasteful. But for myself and my dear departed kindred, I would sooner have the roughest cross, cut out of the commonest stone by the rudest handicraft, than the costliest marble designed by classic genius, and sculptured with the purest and most expressive symbols of heathen taste. These things are offensive to a truly cultivated taste, to say nothing of a right religious sentiment.

We have confessed the Christian faith living, shall we deny it when we have passed away to the fruition of its blessedness? Is this the way that the Christian believer, "being dead, yet speaketh?"

We should have Christian monuments in our Christian burial places, and then our graves would preach to us the same doctrines of resurrection and life in which we find our only hope and consolation.

EDITOR'S TABLE.

To Contributors and Others.—Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to Mead & Woodward, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "The Horticulturist."

Our New Volume.—Like others, we look around, at the beginning of the year, for new fields of usefulness, and to see how the old ones may be improved. We can very plainly see that some interests have been neglected. We have given a large share of attention to the grape, not alone that we seemed to be fitted for it, but because it is a great and absorbing interest, and needed special direction, if not encouragement. But the apples, and pears, and other fruits have now and then uttered an unmistakable grumble of neglect, and the flowers have given forth such plaintive cries of reproach, that at last we are fairly won back to the whole family, and have resolved that hereafter we will not, if possible, neglect a single one of them. We shall keep them all close around us, a happier family than any of the "humans." We shall make no promises, but let the improvements speak for themselves. We hope to retain all our old subscribers, and add a long list of new ones to them. If our old subscribers, in renewing their subscriptions, would send in one or two new names, it would greatly increase our facilities for improving the magazine. There are many who can do this, and we trust that they will.

The Double Zinnia.—The past season has served to give this novelty a prominent and permanent place in the garden. The rule has been fine large double flowers; the exceptions a few semi-double or single ones. The colors are nearly as numerous as in the single kinds, and quite as bright and as good. The flowers are finely imbricated, with the center well up, and as nearly perfect in form as well can be. We saw at Messrs. Fleming & Davidson's some splendid specimens during the past season. When it was first introduced some disappointment was occasioned in consequence of the flowers not *opening* double; and we know of instances where hundreds were pulled up and thrown away; but fully 90 per cent. of these would have developed their double character if they had been allowed to grow. It should be understood that the flowers become double as they expand. We can heartily commend the Double Zinnia to all who have a garden.

Death of Donald Beaton.—We have been pained to see, in a recent number of the *Cottage Gardener*, the announcement of the death of Donald Beaton, at the age of 62. He was one of those rare men who belong to their profession at large, and we willingly pay our tribute to his memory. We had learned much of his private worth through Mr. Townsend and others; but we knew him chiefly through his writings in the *Cottage Gardener;* and these, aside from their marked ability, touched a sympathetic cord in our bosom, from the simple fact that many of his articles contained the results of experiments very similar to those which in former years engaged our own attention. Mr. Beaton was a remarkable man, and a writer of great power. Both in the science and practice of his profession he occupied a very distinguished po-

sition. As a writer he was earnest, candid, and manly. His style was spirited, humorous, and vivacious in the extreme. An original thinker, he has left his mark on the age in which he lived. We can well imagine how much he will be missed. But we leave his associates, who knew him so well, to speak of him in the following extract from the *Cottage Gardener:*

"For a considerable time past, since his last illness, Mr. Beaton had been in a universally good state of health, and had become as active and vivacious as he ever was in his best days. He was constantly engaged in attending to his plants and in reading up the latest horticultural information; but on Thursday evening last he was suddenly seized with an attack of paralysis, which entirely deprived him of the use of his left side, and from six o'clock on the morning of Friday till the time of his death he was perfectly insensible.

"There are none who knew Mr. Beaton personally, and few who knew him only by his writings, who will not regret to hear of this event. For upwards of thirty years he was in the van of English horticulture, and for many years the leader of that branch of it which more immediately concerns the flower garden. To Mr. Beaton we are mainly indebted for the direction that has been given to the modern style of English flower gardening, saving that part of it which is distinguished as 'the polychrome style,' and it is generally allowed that through his articles, as published periodically in the pages of this Journal, his fine taste and skill in the harmonizing of colors have exercised an influence which has operated in all the best garden establishments in the country.

"It was not in the practice of gardening alone that Mr. Beaton excelled. Although he has not taken a position among botanists, he was no mean proficient in that science, and there is, perhaps, not another example on record in the history of our British gardening of one who applied that science more skilfully and beneficially to the practice of horticulture. His knowledge of botany was not of that common order which consists in the running over the names of plants; but whether on questions affecting the alliances, the structure, or the physiology of plants, he was equally acquainted with them all, and he possessed an originality of thought, a keen perception, and a strength of intellect that enabled him to step aside from many of the received opinions, and to promulgate views which some of the most eminent physiologists of the day were not slow to accept. Even as a botanist, however, his name will always be on record, the late Hon. and Rev. Dean Herbert, himself an accomplished botanist, and one who could well appreciate the talents and worth of such a man as Mr. Beaton, having founded the genus *Beatonia* in honor of him.

"As a friend Mr. Beaton was sincere, cordial, and constant; as a neighbor, generous, benevolent, and kind; and as a man, he exemplified, in all his relations in life, the strictest integrity, a scrupulous sense of honor, a forgiving disposition, and a charitable feeling to all with whom he was brought into contact. His playful humor, with which our readers are so familiar, was perhaps the most prominent feature of his character, because it was that which he had the most frequent opportunity of exercising; but no other of the characteristics we have mentioned were less developed, although there were not the same opportunities for exhibiting them.

"The editors of this Journal feel acutely the final loss of their esteemed friend and fellow-laborer. Fourteen years of daily intercourse knitted them and him closely together, and enabled them thoroughly to appreciate his sterling worth, and to know full well the benefits they derived from his aid. In him they had an able coadjutor. And what though at times he was hasty in his assertions? he was always hearty. If he chafed occasionally at opposition, in good time he made amends by proofs of his correctness or acknowledgment of his error; and he never depreciated the merits or undervalued the attainments of those

who were laborers or students with him in the same field.

"To the last he devoted himself to his favorite pursuits; he literally died in the midst of them, for it was when in the act of providing protection for his favorite flowers for the winter that he was seized by the disease which so soon proved fatal."

We learn that a fund is already being raised in England to erect a suitable monument to Mr. Beaton's memory. It has been proposed by Messrs Buchanan, Davidson, and other friends of Mr. Beaton in this country, to contribute something to the fund as a mark of respect to his memory. We think the movement a very proper one, and have consented to receive and forward any sums that may be sent to us for this purpose. We honor talent and downright manly worth wherever found.

THUNBERGIA.—During a visit at Mr. Downing's, we were much pleased with his manner of growing the Thunbergia. The common method is to train it on a frame or strings; but Mr. Downing lets it run in a mass on the ground, which it completely covers. The flowers shoot up above the surface, and look charming, with their pretty buff coats and dark eyes. In this way the Thunbergia might be made an effective bedding plant. We hope some of our readers will try it.

VERBENA MONTANA.—We have received through Mr. Downing a plant of this new Verbena. It came, we think, from Nebraska, and is said to be hardy. It was received as dry as a chip. Not wishing to run any risk in losing it, we potted it, and it is now showing signs of life. Not having seen the flower, we can not describe it. It seems to have a robust habit, and may prove to be an acquisition. We can judge better next season.

FLAVOR OF GRAPES.—We have just seen (Dec. 18) in the *Magazine of Horticulture* some comments on our criticism of the New York Grape Show. It is too late for more than a few brief remarks. Friend Hovey says the criticism is in "very bad taste," and is "poor advice to offer." As we offered no advice in the premises, we need say nothing on this point. In regard to the bad taste, we take issue. Committees are not infallible, and their acts are open to criticism in common with others. We have at least on two former occasions criticised the action of committees, but its bad taste seems to have been quite overlooked. But, to be brief, we do not know of a single editor of a horticultural magazine, either American or foreign, who has not indulged in this bad taste; and we place you, friend Hovey, pretty nearly at the head of the list. On this subject we are in good company. The truth is, however, there is no bad taste about it; it is simply the discharge of a duty. Mr. Hovey says that he does not consider that *flavor* is *quality*. The man who undertakes to separate them, either philologically or pomologically, will have a herculean task before him. Flavor *is* quality, and the precise quality that was to rule on the occasion in question, as seems to us very plain; hence our criticism, and for no other reason whatever. We had not the least idea of saying any thing to detract from the real merits of the Adirondac, which we have commended over and over again. Friend Hovey says he never could see much flavor in the Delaware. All we can say is, that we are sorry, for his own sake, that he can not perceive what is really there, for he deprives himself of a source of large enjoyment. Mr. Hovey further says, "The complaint is, that it [the Adirondac] wants character, and the same may be said of the Hamburgh." That, it seems to us, is putting it quite as strong as we did. The Hamburgh, certainly, is not a *high-flavored* grape, and would not, on this point, take a prize over the Muscat of Alexandria, Chasselas Musque, and others. This is precisely the point embraced in our criticism.

REPORT OF THE COMMISSIONER OF AGRICULTURE.—We have received the Report for 1862, but have not finished its examination.

Correspondence.

EDITOR HORTICULTURIST,—I have been very much annoyed the past three years with caterpillars in my cold vinery. They are from a white moth that lays its eggs on the underside of the leaf. I have tried hand-picking; but enough will always escape to start a new crop. I do not see them on vines in the open air, although I often see what I suppose to be the same kind crawling about. Can you give me a remedy?

Three years ago I wrote to you, asking what it was that was eating my grapes, both in the early and cold house. You could not inform me, but said it was not an insect, as I suggested. It proved to be *mice*, and is easily remedied by the common trap. I mention it for the reason that I have seen no mention of their depredations in the HORTICULTURIST, nor in any of the works on the grape.

They eat only a few from the top of each bunch, but soil the rest, rendering them unfit for use. One word more: I notice that in the works on the grape the Cannon Hall Muscat is mentioned as a late grape, and some works speak of it as difficult to ripen without fire heat. It has fruited with me the past two years, and ripens with the White Frontignan, (I think a day or two earlier,) and, of course, some days before the Black Hamburgh. Truly yours, W.

Newark, Wayne Co., N. Y.

[In regard to the caterpillars, you should at the proper season look over the vines, and destroy the *eggs*. This is better than all the mixtures we could recommend. This, and picking off by hand the few that will escape, will soon free you from this pest. We knew, from your description, that it could not be an insect that destroyed your grapes. Mice are sometimes a great pest in the grapery, not only eating the grapes, but destroying the vines themselves. Costar's rat remedy will soon clear them out; and if a new colony comes in, as sometimes happens, they must be treated in like manner. The Muscat is a difficult grape to grow without fire heat. Under favorable circumstances it will ripen nearly at the same time as the Hamburgh. It will hang for a long time. The books are about right.—ED.]

EDITOR HORTICULTURIST,—In answer to your inquiries in the September number of the HORTICULTURIST, in regard to the composition of my soil, aspect, and the variety of Rhododendron planted, I will state that my exposure is north-northeast. The most of my grounds is limestone clay, the subsoil abounding in limestone pebble; in many places the pebble is intermixed in the soil.

Both of the plants were the Catawbiense variety. One of these I planted on high ground; dug a large hole, and used for compost a mixture of black alluvial soil, where hogs had been fatted one year previous, with a little sand from the river, with some compost.

The other plant was set on lower ground, where it was naturally rich; on ground that had never been cultivated but once, of a tolerably deep, black, loamy nature, where limestone pebbles abound pretty plentifully. I added some light sandy loam from the river. The place was moist, not wet. Both plants were well mulched, and occasionally watered, as needed.

If you can now correct my errors, if I have made any, so that I can grow this superb plant, and explain the reason why, in both cases, the plants made a good growth the first season, and afterwards became sickly the second season, and made but feeble growth, and died outright the third year, you will lay me under lasting obligations.

Very respectfully, E. MANNING.

Harrisburgh, Franklin Co., O.

[Planting Rhododendrons on ground where hogs had been fattened, would cause the death of probably 90 per cent. of them.

We can see nothing in your exposure, or in your soil naturally, to prevent the Rhododendron from growing well. Select an eastern exposure, protected, if possible, by trees or a fence. Break the soil up very fine, and add leaf mould, if the soil is not naturally rich in vegetable matter, but avoid all kinds of manure. Manure will cut off the fine fibers the moment they reach it. Procure varieties of the Catawbiense that have been grown in pots, if possible; plant them carefully, breaking up the soil around the roots very fine, and we have no doubt you will produce beautiful specimens of the Rhododendron.—Ed.]

I am desirous of cultivating a few plums. I already have several trees, but the crop is uniformly destroyed by the *curculio*. My impression is, that if the plum can be attached to a trellis, I could have it (or the curculio) better under my control. Please answer the question in your next issue, and name some good varieties of the plum that will do well in that form of culture, (if any,) and oblige

Yours, &c., J. L. R.

Haddonfield, N. J.

[You would have had better success if you had practiced jarring; but you may grow your plums on a trellis, and cover them with netting during the season of the curculio. Besides, if you train your trees "en cordon," planting them three feet apart, you will have a source of almost endless amusement. The following are a half dozen of the best for this purpose: Green Gage, Washington, Jefferson, Blue Imperatrice, Imperial Gage, Bleeker's Gage.—Ed.]

Editor Horticulturist,—I inclose a leaf from a Delaware grape. It is the first of the kind I have observed, and only to be found on one vine. Of that vine a large number were thus affected. Can you say what it is? I have been for many years a reader of the Horticulturist, and never have been so well pleased as since under your control. The custom of allowing contributors full sway without comment, permits many an error to obtain, which by a few judicious remarks are shorn of their evil tendencies. Your position, as filled by you, reminds me of the careful cultivator using the pruning knife to push a growth or lop one away, as may be needed for the health of the plant under treatment.

You will hear, ere long, from this part of your horticultural domain, in the way of grapes. Could you visit us on your way out, we think we could show you Catawbas that would almost set aside your favorite Delawares. We claim to have one of the best grape regions to be found in the West, not excepting that of our Missouri friends.

You must not think of a hurried visit when you come, as we all claim an interest in you, though we do not know you personally.

I set out this season a few hundred Delawares, and would like to show you that they will grow.

I can not say what has caused it, for I have used no manure nor subsoiled, and yet I have Delawares that have grown six feet, besides numerous laterals.

I was surprised, but none the less pleased with the growth. I have several other varieties, but my vineyard is yet too young to report upon.

This has been emphatically a fruit season, all kinds having produced abundantly. The very dry weather has caused peaches to ripen before reaching their full size. The serrated peaches all mildew in the leaf, especially in such dry seasons. The white fruits, such as La Grange, Morris White, &c., mildew upon the fruit, causing them as they swell to crack open and become worthless.

Excuse me, I did not intend this. I wanted you to see the leaf, and forgot myself.

Yours, J. E. Starr.

Eminence, Ill.

[We should have answered your letter before; but as your leaf is the same as Dr. Garber's, in answering him we answered you (partially) and several others. The leaf is

literally covered with excrescences, and in each you will find a small yellow worm. We have seen here and there an excrescence for many years, but never such a multitude as during the past season. They appear chiefly on the ends of the shoots, and must be injurious when they are so numerous. You should cut off the ends of the shoots, and burn them up. We thank you for your appreciation of our manner of editing the magazine. It involves a great deal of labor, but we could not do it otherwise, and be ourself. Our chief aim is to do good, and it is pleasant to be understood and appreciated. When we come to see you, it shall not be in a hurried manner, but we shall take time to see you all, and talk about grapes and all manner of fruits. We are particularly pleased to hear of every instance of success in growing the Delaware at the West. Success is the rule; failure the exception. We shall be pleased to hear from you again.—Ed.]

Editor Horticulturist,—As I have a little place near the city, and have undertaken the cultivation of grapes, having two years ago set out over two hundred vines, and not being experienced in grape matters, I rely very much upon your Hints on Grape Culture, to judge whether my man is managing right or not; and, therefore, a loss of a single link in the chain of instructions you are giving in each number, is a loss not to be overlooked. Next spring will be the commencement of the third year for the vines. The exposure is an east by south-east; the soil is a gravelly, clayey loam; by going down three feet the gravel increases in size, and, I think, more mixed with sand. I trenched thirty inches, with bones and manure mixed in, and turned under with the top soil when trenching. The plants are eight feet apart in rows six feet apart. Delaware and Concord are the principal grapes. I have also five or six other varieties, but only for variety. I intend to plant Delaware altogether hereafter, should I find the location, soil, etc., well adapted for it. I have adopted the general system.

Should you see any thing that you think would be advisable for me to do under the circumstances, to assist in developing this little vineyard, please do so.

Yours truly, J.

Pittsburgh, Oct. 5, 1863.

[We judge, from your letter, that you are doing every thing properly. Your exposure is good, your soil suitable, and its preparation judicious, only you should add some fine muck if you can get it. The distance of eight feet is too much for the Delaware; it is using your ground unprofitably. We therefore advise you to put in another Delaware between them, so as to have them four feet apart, and adopt the double-arm system first described in our "Hints." We shall be glad to advise you at all times.—Ed.]

Editor Horticulturist,—I have several lilies on my grounds that I would like to get the true names of while you are among the lilies. The first is a short grower, a foot and a half high, foliage drooping, dark color, flowers upright, orange spotted, from six to twelve on the stalk. Done flowering 12th of July. The next begins to flower about the same time,(the 12th,) grows taller, leaves longer, flowers stand up, and about the same color as the above. I have another lily, flowers white in the fall, just before the frosts in October; pale green foliage, flowers and leaves stand up, over a foot high. By giving the names of the above lilies in the Horticulturist, you will very much oblige a subscriber, B. Losee.

Coburg, C. W.

[We can hardly undertake to give the proper names of your lilies from such an imperfect description. Nothing is said of the form of the leaf, flower, etc. You see as the matter now stands, a dozen or more of this tribe start up and say, "I'm his lily!" and we are unable to decide between them. The first mentioned may be Maculatum, and the last a Hermerocallis. Give us a sketch on paper, if you can, of the leaf and flower.—Ed.]